

Due: _____

Honors Algebra 2
Chapter 1 Worksheet

Name: Key

All work must be shown. No Calculator.

1. Find the value: $6 + 8^2 \div 4 - 2$

$$20$$

2. Evaluate: $\frac{3a^2 + 2b^2}{c^2}$ if $a = 1$, $b = 2$ and $c = -3$

$$11/9$$

3. Solve for the given variable.

The formula to find the volume of a cone is $V = \frac{1}{3}\pi r^2 h$, where V is the volume, r is the radius of the base and h is the height.

Resolve the formula for h .

$$h = \frac{3V}{\pi r^2}$$

Simplify to following expressions:

4. $3(2x - 7) - 2(x + 3)$

$$4x - 27$$

5. $\frac{1}{5}(10x + 15) - 2(2x - 5)$

$$-2x + 13$$

6. $.75(12x - 8) + 1.4(5x + 15)$

$$16x + 15$$

Solve the following equations and inequalities:

7. $-6(x - 8) = 4x + 18$

$$x = 3$$

8. $\frac{1}{2}x - \frac{1}{3} = \frac{3}{2}x + 1$

$$x = -4/3$$

9. $|3x - 5| = -7$

No Solution

10. $3x - 5 > 31$

$$x > 12$$

11. $4|x - 8| \leq 12$

$$5 \leq x \leq 11$$

12. Write an equation to solve the following problem:

"The width of a rectangle is 3 meters more than its length. The perimeter is 26 meters, find the length." (Note: Just write an equation, do not solve.)

$$2x + 2(x+3) = 26$$

$$\text{or } 2(2x+3) = 26$$

Solve the following

$$\text{or } 4x + 6 = 26$$

13. Frank ordered Bulldog tickets that cost \$8 for students and \$15 for adults. He ordered 10 more student tickets than adults. His total bill was \$195. How many of each type did he get?

5 adults / 15 students

14. A parking garage charges \$5 for the first three hours and \$2 for each additional hour (portion of hours are not considered). Fran has \$10 to spend for parking. How many hours can Fran park her car?

5 hours

15. Use $I = Prt$, the formula to calculate the interest over t years, find I when $p = \$2500$, $r = 2.5\%$, and $t = 36$ MONTHS.

\$187.50

16. Solve and graph the compound sentence: $-11 < 4x - 7 < 13$

$$-1 < x < 5$$



17. Solve and graph the inequality: $|2x + 1| \geq 9$

$$x \geq 4 \text{ or } x \leq -5$$



18. Write the following absolute value equation for the given graph.



$$|x - 8| \leq 12$$

or

$$|8 - x| \leq 12$$